The Geriatric Multidimensional Pain and Illness Inventory: A New Instrument Assessing Pain and Illness in Long-Term Care

P. Andrew Clifford, PhD
Daisha J. Cipher, PhD
Kristi D. Roper, PhD*

ABSTRACT. The Geriatric Multidimensional Pain and Illness Inventory (GMPI) was developed in order to assess the perceptual, functional, and emotional concomitants of pain and illness in long-term care. The GMPI was administered to 401 adults aged 60 and older residing in one of 16 long-term care facilities. The GMPI items were analyzed for reliability, content validity, and convergent and discriminant validity. Factor analysis of the GMPI items revealed three subscales, level of pain severity, level of functional limitations associated with pain, and level of emotional distress associated with pain. The GMPI items were significantly correlated with items from the Geriatric Depression scale, the Neurobehavioral Cognitive Status Exam, and the Activities of Daily Living. The GMPI is evidenced to be a reliable and valid assessment tool

P. Andrew Clifford is affiliated with Senior Connections of Dallas.
Daisha J. Cipher is affiliated with the University of North Texas Health Science Center.
Address correspondence to: Daisha J. Cipher, PhD, UNT Health Science Center, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107 (E-mail: dcipher@hsc.unt.edu).
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for assessing pain of residents in long term care facilities. Its brevity and clearly defined assessment criteria are assets to the administering clinician. Research on the utility of the GMPI as a treatment outcome instrument in long-term care is warranted. The potential for social workers and registered nurses to administer the GMPI in long-term care settings is discussed.

KEYWORDS. Long-term care, pain, elderly, assessment

INTRODUCTION

The prevalence of pain among the elderly has been estimated to be as much as three times higher than among the younger adult populations–40% to 85% versus 10% to 30%, respectively (Bressler, Keyes, Rochon, & Badley, 1999; Harkins, Price, & Bush, 1994; National Center for Health Statistics, 1986; Sternbach, 1987). Pain in the elderly populations has gained increasing attention in the literature (Parmelee, 1996; Ferrell, Ferrell, & Rivera, 1995; Gagliese & Melzack, 1997). Some of the major challenges facing clinicians include the ability to assess pain (Gagliese & Melzack, 1997). There are few measures that exist in the literature that have been constructed to measure pain and quality of life among elderly persons who evidence some level of cognitive impairment. Those instruments are reviewed below.

Two of the most commonly used measures of pain in long-term care facilities are the visual analogue scale (VAS) and the numeric rating scale. The VAS is a self-report scale that is typically 6 centimeters wide with labels at each endpoint, such as "no pain" on one end and "worse possible pain" on the other. Respondents put a mark on the scale, and the mark is assigned a number. The numeric rating scale is similar to the VAS, but is a 10-point Likert scale, with labels associated with certain points on the scale. In a study that examined the use of a VAS with cognitively impaired individuals, Scherder and Bouma found that only a small percentage understood how to rate their pain on a VAS and similar instruments (Scherder & Bouma, 1998.)

Another common pain assessment method in long-term care is a three-point pain intensity scale, with points labeled as "mild pain"

(1 point) to "moderate pain" (2 points) to "horrible or excruciating pain" (3 points; Briggs Corporation, 1997). This scale is a part of the Minimum Data Set (MDS) and also assesses cognitive abilities, functional capacity, communication abilities, mood, vision, hearing, psychosocial issues, and general health condition. The MDS is typically used in skilled nursing facilities, and is verbally-administered and rated by long-term care staff. Fries and colleagues demonstrated that the MDS pain scale is highly consistent with VAS ratings, and can be used in the place of a VAS in long-term care settings (Fries, Simon, Morris, & Feldstrom, 2001). As with the VAS, the scaling of the MDS pain assessment scale can be inaccurate, since there may be a vast difference between "moderate" and "horrible and excruciating" pain. Moreover, there are no criteria on the scale itself that detail the criteria for the pain ratings, thus resulting in potential inconsistency among raters.

More recently, a new 24-item assessment instrument called the Geriatric Pain Measure (GPM) was developed by Ferrell and colleagues (Ferrell, Stein, & Beck, 2000). The GPM was designed to assess pain and associated limitations in the ambulatory elderly who may be experiencing multiple medical problems. The GPM is an "interviewer-assisted" instrument, meaning that the items are read to the patient and/or clarified in order to ease completion. The GPM is an improvement over earlier scales by assessing both the severity of pain and functional limitations due to pain.

There are caveats associated with measuring pain (or any construct) using a one-item scale (Clifford, Gorsuch, & Perry, 1994). First, a one-item pain measure may be at risk for poor content validity. That is, one question may not adequately assess all of the aspects associated with "pain" (Gorsuch & McFarland, 1972). Second, using a one-item pain measure with the cognitively-impaired elderly may result in a "false negative." Manz and colleagues described this problem in their study on pain assessment in long-term care, as some residents were reluctant to report pain if they consider such a report as "complaining" (Manz, Mosier, Nusser-Gerlach, Bergstrom, & Agrawal, 1998).

Moreover, pain is generally acknowledged to be a complex, subjective phenomenon that encompasses nociceptive, perceptual, cognitive, and emotional factors (Melzack & Casey, 1968; Melzack & Wall, 1965; Loeser, 1980; Turk, Meichenbaum, & Genest, 1983). Therefore, an assessment instrument that measures pain should include items that assess not only residents' severity of pain, but perceptions of the pain's impact on residents' daily activities and emotional functioning (Gagliese & Melzack, 1997). Although multidimensional assessments of this kind

have been developed and validated for younger populations with chronic pain disorders (Kerns, Turk, & Rudy, 1985), as well as for the ambulatory elderly (Ferrell et al., 2000), there are currently no comprehensive assessment instruments that have been tailored to residents in long-term care facilities.

The purpose of the present study was to develop a comprehensive pain assessment instrument that can be used with residents in long-term care facilities, including skilled nursing facilities and long-term acute care facilities. The Geriatric Multidimensional Pain and Illness Inventory (GMPI; see Appendix) was designed to assess the frequency and intensity of pain, and pain's functional, social, and emotional concomitants. In the absence of pain, the GMPI can be used to assess the severity of a patient's illness, and the illness's functional, social, and emotional concomitants. This is the first instrument to date that is multidimensional and has been developed specifically for the long-term care population. Reliability (internal consistency and test-retest), content validity, convergent validity, and discriminant validity of the GMPI are reported in the present study.

METHOD

Participants

The study sample consisted of 401 residents living in a total of 16 long-term care facilities in the Dallas, Texas area. Thirteen of the long-term care facilities were skilled nursing units, and three were long-term acute care facilities. Seventy-five percent of the sample consisted of females, and the average age was 82 years (SD = 9.3). The sample was predominantly Caucasian (89%), followed by African-American (4%) and Asian American (2%). Seventy-two percent (n = 288) of the sample reported persistent pain (pain experienced most of the day) and/or recurrent pain (pain experienced most days of the week). Of those residents, pain was reported to have been experienced an average of 71% of the time. Residents were suffering from more than two chronic medical conditions on average ($\overline{X}$ = 2.7, SD = 1.8), the most common condition being hypertension (47%), followed by coronary artery disease (38%), cerebral vascular damage (29%), diabetes (24%), congestive heart failure (24%), atrial fibrillation (20%), chronic obstructive pulmonary disease (17%), and kidney disease (8%).

Measures

The Geriatric Multidimensional Pain and Illness Inventory (see Appendix). The GMPI is a 12-item instrument designed to assess pain and its functional, social, and emotional consequences. In the absence of pain, the GMPI assesses the severity of the resident's primary chronic medical condition and its functional and emotional consequences. The first item is, "How bad is your pain or illness right now?" Other items include, "How much have you suffered because of your pain or illness this last week?" and "How irritable have you been this last week because of your pain or illness?" All items are rated on a 10-point scale, with each point associated with specific behavioral criteria. The scaling of the items is behaviorally-oriented because the GMPI is rated by a clinician who can only rate based on what the rater and the staff members can *observe*. Higher values are indicative of higher levels of pain and/or higher levels of functional/social/emotional difficulties.

Geriatric Depression Scale (GDS; Yesavage, Brink, & Rose, 1983). The shortened (15-item) version of the GDS is a clinician-rated inventory that assesses depression. The GDS was standardized specifically toward the elderly population. Respondents answer each item with either "yes" or "no." The 15-item version has good interrater reliability, with values ranging from .70 to .87 (Van Marwijk et al., 1995).

Neurobehavioral Cognitive Status Examination (NCSE; Kiernan, Mueller, Langston, & Van Dyke, 1987). The NCSE is a clinician-administered examination of impairment in orientation, repetition, naming, attention span, comprehension, short-term memory, constructional ability, social judgment, and calculation. The NCSE assesses various aspects of cognitive functioning, and was developed to overcome weaknesses of other brief instruments. The NCSE has good reliability and validity indicators, and has been evidenced to have a low false-negative rate (Schwamm, Van Dyke, Kiernan, Merrin, & Mueller, 1987).

Minimum Data Set 2.0 (MDS; Briggs Corporation). The Minimum Data Set (MDS) is a clinician-rated inventory of health status of residents in long-term care. One item in the MDS (Section J, Health Conditions) assesses current intensity of pain, and this item was selected and used in this study. The item is rated with three points labeled as "mild pain" (1 point) to "moderate pain" (2 points) to "horrible or excruciating pain" (3 points). The MDS has been evidenced to be highly consistent with the visual analogue scale (Fries et al., 2001), and the Health Conditions portion of the MDS has been demonstrated to

achieve good reliability, with kappas averaging over .60 (Hawes et al., 1995).

Katz Activities of Daily Living (ADL; Katz, Ford, & Moskowitz, 1963). The Katz ADLs are indices of functional capacity that include toileting, transferring, time out of bed, ambulation, personal grooming, dressing, bathing, and eating.

Procedure

The GMPI was administered as part of a neuropsychological evaluation that was administered by a clinical psychologist. This sample consisted of patient referrals from attending physicians to a clinical psychologist for one of three reasons: (1) change in cognitive functioning; (2) emotional distress; or (3) behavioral dysfunction associated with dementia. Each GMPI was verbally-administered to the resident by a licensed clinical psychologist, after interviewing nursing staff and family members who were involved with the resident's care. The long-term care staff were involved in the ratings of the GMPI, as the items rely on the patient and staff's recollection of pain and limitations during the past week. For those residents with higher levels of dementia, the clinical psychologists' observations were used more frequently than self-reports (see Discussion).

Item Analysis: Pain Group

The following data analysis section focuses on the sample of 288 residents (referred to as the "Pain Group") who reported experiencing persistent or recurrent pain. Fourteen GMPI items were factor-analyzed with oblique rotation in order to identify item clusters. Three factors emerged, and 12 of the original 14 items were retained. The amount of common variance accounted for by the three factors was 40%, 16%, and 9%, respectively. Table 1 shows the factor loadings associated with each item. Two items did not load on either of the factors, nor did they account for another unique factor, and were eliminated from the subsequent analyses. The three factors were named "Pain and Suffering," "Activity Interference," and "Emotional Distress." Three factor scores were created for each patient using the Regression Method. The Pain and Suffering, Activity Interference, and Emotional Distress factor scores were significantly intercorrelated, with Pearson *r* values ranging from $r(281) = .38$ to .55 ($p < .0001$).

TABLE 1. Item Factor Loadings on Three GMPI Subscales

FACTOR LOADING	GMPI ITEM
Scale 1: Pain and Suffering	
.88	Current level of pain
.86	Level of pain in the past week
.67	Level of suffering in the past week
Scale 2: Activity Interference	
.67	Pain's interference with walking
.60	Pain's interference with sitting up
.84	Pain's interference with leaving room
.91	Pain's interference with social activities
.75	Pain's interference with satisfaction/enjoyment
Scale 3: Emotional Distress	
.85	Lonely because of pain
.63	Irritable due to pain
.69	Anxious due to pain
.73	Coping with problems

Item Analysis: Illness Group

The 113 patients who did not report persistent or recurrent pain composed the "Illness Group." For this group, the GMPI was administered to the patient in order to assess the severity of the patient's primary medical condition and its associated functional and emotional consequences. There were no differences in the levels of cognitive impairment between the Pain Group and the Illness Group ($F(1,357) = .74$, ns). However, the Pain Group had higher levels of disability, as measured by average levels of ADLs, than the Illness Group ($F(1,357) = 9.44$, $p < .01$).

As shown in Table 2, descriptive statistics for the GMPI items indicate that almost every item mean was lower for the Illness Group as compared to the Pain Group. With exception of item number 10 (Irritable due to pain or illness), every item was significantly lower for the Illness Group ($p < .01$). Moreover, the Illness Group had significantly lower GDS scores ($\overline{X} = 5.87$ for the Illness Group versus $\overline{X} = 7.91$ for the Pain Group, $F(1, 358) = 29.27$, $p < .001$).

TABLE 2. Descriptive Statistics for the GMPI Items from the Pain Group

GMPI Item	Mean	SD
Current level of pain	4.78	2.37
Level of pain in the past week	5.09	2.17
Level of suffering in the past week	5.64	2.34
Pain's interference with walking	8.41	1.90
Pain's interference with sitting up	6.04	2.53
Pain's interference with leaving room	6.28	2.64
Pain's interference with social activities	7.15	2.33
Pain's interference with satisfaction/enjoyment	7.34	2.33
Lonely because of pain	4.78	2.60
Irritable due to pain	5.54	2.47
Anxious due to pain	6.22	2.44
Coping with problems	5.41	1.97

RESULTS

The following results focus exclusively on the data generated from the Pain Group, because the primary focus of our current study is pain and its sequelae in long-term care. Descriptive statistics for the Pain Group's scores on the NCSE are shown in Table 3. Descriptive statistics for the final GMPI items are shown in Table 4. On average, residents reported that their current pain (GMPI Item 1) was at a level of "distressing" (pain is distracting more than 40% of the day). Residents reported moderate levels of suffering (GMPI Item 3), and high levels of activity interference associated with their pain. They reported moderate levels of loneliness, irritability, and anxiety due to their pain (GMPI Items 9, 10, and 11).

Reliability

The GMPI as a whole demonstrated good internal consistency (α = 0.88). The average item-total correlation was r = 0.54 and the average inter-item correlation was r = 0.33, suggesting items were moderately cor-

TABLE 3. Descriptive Statistics for the GMPI Items from the Illness Group

GMPI Item	Mean	SD
Current level of illness severity	2.98*	2.13
Level of illness severity in the past week	3.26*	2.36
Level of suffering due to illness in the past week	3.73*	2.48
Illness's interference with walking	7.65*	2.55
Illness's interference with sitting up	4.75*	2.86
Illness's interference with leaving room	5.10*	2.95
Illness's interference with social activities	5.96*	2.91
Illness's interference with satisfaction/enjoyment	6.40*	2.73
Lonely because of illness	3.42*	2.02
Irritable due to illness	5.19	2.52
Anxious due to illness	5.33*	2.58
Coping with problems	4.72*	1.89

* Indicates significant difference from Pain Group; $F_{.99}$ (1, 392) = 6.78

TABLE 4. Descriptive Statistics for the NCSE

Subscale	Possible Range of Scores	Mean	SD
Orientation	0-12	6.34	3.88
Attention	0-8	5.84	2.12
Comprehension	0-9	5.00	1.28
Repetition	0-12	9.78	2.83
Naming	0-9	5.74	1.97
Constructions	0-6	0.94	1.44
Memory	0-12	5.48	3.41
Calculations	0-11	2.37	1.55
Similarities	0-8	3.75	2.16
Judgment	0-6	4.11	1.46

related with each other and with the overall total scale (see Table 5). A reliability analysis of the three GMPI subscales revealed that the subscales evidenced moderate to high internal consistency. The reliability coefficients for the Pain and Suffering, Activity Interference, and Emotional Distress subscale items were $\alpha = .85$, $\alpha = .83$, and $\alpha = .77$, respectively.

A subset of this sample that consisted of 22 consecutively evaluated patients was used for the test-retest reliability portion of this study. After being trained in the administration of the GMPI, two licensed doctoral-level clinical psychologists rated the 22 patients on the GMPI items, in two administrations that were scheduled 48 hours apart. Table 6 shows the correlations between the items and subscales of the first administration and the second administration. The item test-retest reliability coefficients ranged from .62 for Item 9 (loneliness due to pain) to .96 for Item 4 (interference in walking). The subscale test-retest reliabilities were .68, .96, and .94 for the Pain and Suffering, Activity Interference, and Emotional Distress subscales, respectively.

TABLE 5. Intercorrelations of GMPI Items

		1	2	3	4	5	6	7	8	9	10	11
1.	Current level of pain											
2.	Level of pain in the past week	.69										
3.	Level of suffering in the past week	.57	.69									
4.	Pain's interference with walking	.20	.18	.27								
5.	Pain's interference with sitting up	.30	.36	.39	.43							
6.	Pain's interference with leaving room	.25	.26	.34	.48	.65						
7.	Pain's interference with social activities	.23	.23	.30	.47	.55	.68					
8.	Pain's interference with satisfaction/enjoyment	.24	.22	.35	.39	.37	.48	.65				
9.	Lonely because of pain	.27	.37	.37	.12	.18	.16	.11	.16			
10.	Irritable due to pain	.28	.34	.41	.20	.25	.24	.22	.23	.39		
11.	Anxious due to pain	.35	.43	.47	.19	.30	.25	.21	.28	.43	.40	
12.	Coping with problems	.39	.40	.38	.28	.30	.32	.32	.33	.48	.43	.52

TABLE 6. Test-Retest Correlations for the GMPI Items and Subscales

	Pearson *r*
Item 1: Administration 1 with 2	.65
Item 2: Administration 1 with 2	.63
Item 3: Administration 1 with 2	.67
Item 4: Administration 1 with 2	.96
Item 5: Administration 1 with 2	.86
Item 6: Administration 1 with 2	.85
Item 7: Administration 1 with 2	.92
Item 8: Administration 1 with 2	.87
Item 9: Administration 1 with 2	.62
Item 10: Administration 1 with 2	.88
Item 11: Administration 1 with 2	.88
Item 12: Administration 1 with 2	.85
Pain and Suffering: Administration 1 with 2	.68
Activity Interference: Administration 1 with 2	.96
Emotional Distress: Administration 1 with 2	.94

Validity

The GMPI subscales were assessed for convergent and discriminant validity by examining the correlations between the three subscales and the MDS pain intensity scale, the GDS, ADLs, and the NCSE. When the GMPI subscales were correlated with the MDS pain intensity scale, the correlations were $r = .81$, .34, and .43 ($p < .0001$) for the Pain and Suffering, Activity Interference, and Emotional Distress subscales, respectively. The GMPI subscales were also significantly correlated with the total score on the Geriatric Depression scale ($r(249) = .17$, .36, and .34, $p < .01$, for Pain and Suffering, Activity Interference, and Emotional Distress subscales, respectively). Table 7 shows the correlations between the GMPI subscales and each item of the GDS. All three of the subscales were significantly correlated with the first item on the GDS which assesses life satisfaction, and the second item on the GDS which

TABLE 7. Correlations Between the GMPI Subscales and the Geriatric Depression Scale Items

GDS Item	Pain and Suffering	Activity Interference	Emotional Distress
GDS 1: Satisfied with life	–.18*	–.32*	–.29*
GDS 2: Dropped activities & interests	.08	.29*	.19*
GDS 3: Feel that life is empty	–.01	.13	.18*
GDS 4: Often get bored	.12	.13	.31*
GDS 5: Good spirits most of time	–.18*	–.12	–.23*
GDS 6: Afraid s/t bad going to happen	.02	.12	.14
GDS 7: Feel happy most time	–.24*	–.20*	–.29*
GDS 8: Feel helpless often	.19*	.36*	.28*
GDS 9: Prefer stay at home	.04	.08	–.05
GDS 10: Problems with memory	–.02	–.07	–.03
GDS 11: Think its wonderful to be alive	–.02	–.15*	–.03
GDS 12: Feel pretty worthless	.07	.22*	.15*
GDS 13: Feel full of energy	–.17	–.32*	–.14*
GDS 14: Feel situation hopeless	–.01	.02	.12
GDS 15: Think others are better off	–.07	.09	.03

*: $r(249)_{.95} = .13$; $r(245)_{.99} = .16$

assesses a drop in interests and activities. The Activity Interference subscale was significantly correlated with those GDS items that assess vegetative symptoms of depression. The Emotional Distress subscale was significantly correlated with the GDS items assessing the emotional concomitants of depression (happiness, boredom, and helplessness).

Correlational analyses also revealed significant relationships between the Activity Interference subscale and every ADL scale ($p < .0001$). As shown in Table 8, the Activity Interference subscale was most highly correlated with the ADL scale measuring "ambulation" ($r = –.48$, $p < .0001$), followed by "toileting and continence" ($r = .36$, $p <$

TABLE 8. Correlations Between the GMPI Subscales and the Activities of Daily Living

ADL Scale	Pain and Suffering	Activity Interference	Emotional Distress
Ambulation	–.10	–.48*	–.02
Eating Habits	–.01	–.22*	.00
Dressing	–.01	–.27*	–.06
Toileting and Continence	–.06	–.36*	–.06
Bathing	.03	–.26*	–.01
Transferring	–.05	–.35*	–.08

*: $r(279)_{.95} = .12$; $r(279)_{.99} = .15$

.0001) and "transferring" ($r = .36$, $p < .0001$). However, the Pain and Suffering and Emotional Distress subscales were not significantly correlated with any of the ADL scales.

Finally, the Pain and Suffering subscale was significantly correlated with five of the NCSE subscales. As shown in Table 9, Pain and Suffering was significantly correlated with Orientation ($r = .17$, $p < .01$), Comprehension ($r = .13$, $p < .03$), Memory ($r = .23$, $p < .0001$), Calculations ($r = .17$, $p < .01$), and Similarities ($r = .16$, $p < .01$). The Emotional Distress subscale was significantly correlated with one NCSE subscale, Memory ($r = .18$, $p < .01$), and the Activity Interference subscale was not significantly correlated with any of the NCSE subscales.

DISCUSSION

Our analyses revealed the GMPI to evidence good internal consistency and test-retest reliability, as well as good convergent and discriminant validity. The three subscales were correlated with one another and with other measures as would be expected. The final 12 GMPI items consist of three subscales. The first subscale consists of three items that assess pain intensity and suffering associated with pain. The second subscale consists of five items that assess functional limitations associated with pain. The third subscale consists of four items that assess emotional distress associated with pain.

TABLE 9. Correlations Between the GMPI Subscales and the NCSE

Cognistat Scale	Pain and Suffering	Activity Interference	Emotional Distress
Orientation	.17*	.07	.11
Attention	.09	–.09	.04
Comprehension	.13*	–.12	.05
Repetition	.10	–.03	.10
Naming	.09	.02	.06
Constructions	.11	.10	.08
Memory	.23*	.12	.18*
Calculations	.17*	.03	.10
Similarities	.16*	.13	.12
Judgment	.06	–.04	.06

*: $r(273)_{.95} = .12$; $r(273)_{.99} = .16$

The GMPI subscales were mildly to moderately associated with the GDS. The GMPI items assessing emotional distress were significantly associated with similar items on the GDS. The GMPI items assessing functional limitations were significantly associated with GDS items assessing vegetative symptoms of depression. The Activity Interference subscale (but not the other two subcales) was significantly correlated with all of the ADLs. These collective findings are indicative of the convergent and discriminant validity of the GMPI.

We found significant associations between the GMPI subscales and some of the NCSE scales. While these correlations were small, they indicate that the more cognitively intact residents were on five of the NCSE scales, the more pain and suffering they reported. These findings are similar to those of Parmelee (1996), who found that persons with severe cognitive impairment reported less pain than persons with mild cognitive impairment, who in turn reported less pain than persons with intact cognitive abilities. Parmelee's explanation was that these differences were most likely due to the communication impairment associated with cognitive difficulties. In other words, cognitive impairment is likely to be associated with the decreased ability to communicate pain.

Another potential explanation may be that patients with impaired memories have difficulty recalling pain "in the past week." As with the MDS and the GDS, the clinician administering the GMPI must rely on long-term care staff for assistance in rating any items that require "remembering" for those patients that have impaired recollections.

Patients who are experiencing mild or moderate levels of dementia should be able to assist the clinician in answering each item. As cognitive decline progresses, patients' verbal participation in the GMPI rating process is expected to be more limited. Among patients who are experiencing severe cognitive decline, the clinician must collaborate closely with staff and caregivers. Patients' tone of voice, facial expressions, and body language are very important in the rating process, as well as structured observations of patients' activities during the week.

The GMPI has the potential to have good clinical utility, especially when used as a treatment outcome measure in long-term care. Since most treatment objectives in long-term care facilities are aimed at improving resident's functional capacity and alleviating pain and associated limitations, improvements in the GMPI are likely to represent successful treatment outcomes. The brevity and psychometric properties of the GMPI are also assets to the clinician working in long-term care, and can easily be incorporated into a monthly follow-up assessment schedule.

Future research is encouraged to validate the GMPI in other residents of long-term care facilities. Our sample consisted largely of chronically-ill residents, most of whom were not ambulatory. Moreover, as is the case with any clinician-rated assessment instrument, the GMPI is only as good as the rater using it. If the reader is considering using the GMPI in a long-term care setting, s/he can contact the authors to request a GMPI training manual. A licensed psychologist may not be required to administer the GMPI to residents. Clinical long-term care staff, such as social workers and registered nurses, could administer the GMPI after receiving training. Further research on the GMPI as administered by clinical long-term care staff is warranted.

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